Regulatory Advisory

September 25, 2008

TRU Advisory: 08-13

Hybrid Cryogenic Temperature Control System Compliance Option

The purpose of this advisory is to describe how transport refrigeration units (TRU) that are equipped with hybrid cryogenic temperature control systems may be used to comply with the in-use performance standards of the TRU Airborne Toxic Control Measure (ATCM) as an Alternative Technology (see title 13, California Code of Regulations, section 2477, subsection (e)(1)(A)3.b.).

Background

A TRU is defined as a refrigeration system powered by an integral internal combustion engine. Pure cryogenic temperature control systems do not have diesel engines that power refrigeration systems and are therefore not subject to the TRU ATCM's in-use performance standards.

Hybrid cryogenic temperature control systems are defined as temperature control systems that use a cryogenic temperature control system in conjunction with a conventional TRU. Hybrid cryogenic temperature control systems are Alternative Technologies that qualify to meet the Ultra-Low-Emission TRU (ULETRU) in-use performance standard only if the TRU is not operated under diesel engine power while at a facility, except during an emergency[1]. This also applies to meeting the less stringent Low-Emission TRU In-Use Performance Standard (LETRU).

What are ARB's Policies?

Are there any exceptions to the stipulation that diesel engine operations at a facility must be eliminated?

Yes, there are limited exceptions:
1) During an emergency, as described above;
2) During normal ingress and egress yard maneuvering; and
3) To make short-duration stops to unload refrigerated goods at restaurants, grocery and convenience stores, and similar facilities, provided these stops are within the following limitations:
   - o No more than two TRUs are present at a time; and
   - o The delivery stay is no longer than 30 minutes.

A robust recordkeeping system would be needed to demonstrate diesel engine operation is eliminated while at all facilities. The following records, in combination, may provide this demonstration:

- Gate time stamps or logs at each facility gate exit and entry (or arrival/departure);
- Engine hour meter readings at each entry and exit;
- Cryogenic hour meter readings at each entry and exit; and
- Diesel fuel consumption records for each unit.

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[1] "Emergency" means any of the following times:
(A) A failure or loss of normal power service that is not part of an "interruptible service contract" (see definition in subsection (d));
(B) A failure of a facility's internal power distribution system, provided the failure is beyond the reasonable control of the operator;
(C) Any period when an affected facility is placed under an involuntary "rotating outage".

Is reporting of these records required?

Reporting to the California Air Resources Board (ARB) is not required; however, records going back three years would need to be made available to ARB inspectors to demonstrate compliance.

Do cryogenic and hybrid cryogenic temperature control systems have to be verified?

No. Cryogenic temperature control systems do not require verification.

Do I also have to retrofit my engine exhaust with a Verified Diesel Emission Control Strategy (VDECS) to cut my emissions while operating on the road?

No. Provided the diesel engine emissions are eliminated at all facilities, within the limited exceptions listed above, the diesel engine does not also need to be retrofitted with a VDECS.

If a TRU owner had a hybrid cryogenic temperature control system equipped TRU before the LETRU compliance date, can they count this as early compliance and thus get a delay in the ULETRU compliance date?

Just having a hybrid cryogenic temperature control system on a TRU does not automatically qualify the TRU as being in compliance with the in-use performance standards in the TRU ATCM. To qualify as an Alternative Technology compliance strategy, the owner must be able to show that the hybrid cryogenic temperature control system-equipped TRU is operated in a way that eliminates the TRU diesel engine operation while at a facility. A robust recordkeeping system would be needed to demonstrate compliance with these qualifying conditions, as described above. Qualifying Alternative Technologies meet ULETRU, and would therefore also meet the less stringent LETRU. Thus, there would be no need for a delay for ULETRU.

If a hybrid cryogenic temperature control system-equipped TRU is at a delivery point longer than 30 minutes, or while there are more than two TRUs present at one time, can the driver just shut the TRU engine down?

The answer to this question is similar to that provided for the question immediately above. A robust recordkeeping system would need to demonstrate compliance with the qualifying conditions described above. Hybrid cryogenic temperature control systems may only be practical compliance options where TRUs are used for delivery routes with short duration stops.

For more information

To obtain a copy of the regulation or other related compliance assistance documents, visit the TRU website at http://www.arb.ca.gov/diesel/tru.htm. Additional questions may be addressed by calling the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM).

If you have a disability-related accommodation need, please go to http://www.arb.ca.gov/html/ada/ada.htm for assistance or contact the ADA Coordinator at (916) 323-4916. If you are a person who needs assistance in a language other than English, please contact the Bilingual Coordinator at (916) 323-7053.

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